

TAB C

**IN THE UNITED STATES BANKRUPTCY COURT
FOR THE DISTRICT OF DELAWARE**

IN RE:

W. R. GRACE & CO., et al.

Debtors.

Chapter 11

Case No. 01-01139 (JKF)
(Jointly Administered)Hearing Date: April 9, 2007
Related Docket No. 9315

RULE 1006 SUMMARY OF VOLUMINOUS WRITINGS

The content of the following voluminous documents is summarized in the foregoing

Motion and Memorandum:

<u>DOCUMENT</u>	<u>PAGES</u>
<i>Jefferson Parish School Board v. W. R. Grace & Co., (D. La August 31, 1988)</i>	11285-018, pages 2-31 and summons
<i>EPA, Asbestos-Containing Materials in School Buildings: A Guidance Document (1989)</i>	Cover pages and Part 1 - Letter to Schools, Chapter 4; Part 2 – Part I
<i>EPA, School Asbestos Program Questions and Answers (1979)</i>	Cover page and pages OPSB 356, 357, 359, 362
<i>The Attorney General's Asbestos Liability Report to Congress (1981)</i>	Cover page and page (XII)
Caddo Parish Claim Forms	Knowledge & Abatement 1979-1986 10631-005-007, 062-067 10632-005
Natchitoches Parish Claim Forms	Knowledge & Abatement 1981-1983 11326-004, 006 and supplemental material
East Baton Rouge Parish Claim Forms	Knowledge & Abatement 1979-1985 12651-0006, 037-040; 12654-006 and supplemental material

<u>DOCUMENT</u>	<u>PAGES</u>
Jefferson Davis Parish Claim Forms	Knowledge & Abatement 1982 8025-004, 006, 008, 019, 020, 022
Acadia Parish Claim Forms	Knowledge & Abatement 1983-1984 8029-0006, 019, 021
Lafourche Parish Claim Forms	Knowledge & Abatement 1983-1985 8018-006, 061-065, 066 8019-006, 051, 052, 054, 055 8022-004, 050; 8023-006, 182
Lafayette Parish Claim Forms	Knowledge & Abatement 1984-1987 11285-006, 042, 092, 093
Jefferson Parish Claim Forms	Knowledge & Abatement 1980-1985 8164-004; 8165-004, 006; 8181-004; 8184-004; 8186-004
St. Martin Parish Claim Forms	Alleged Knowledge 1988 8024-004, 006, 008, 020
Calcasieu Parish Claim Forms	Alleged Knowledge 1988 8034-004, 006, 008
LaSalle Parish Claim Forms	Alleged Knowledge 1988 8027-006
The Archdiocese's Claims Forms and Discovery Information	Knowledge & Abatement 1981-1983 Pfellerle Dep at 134, 135-136 Rice Dep. at 26, 31, 32 April 5, 1982 Rice Letter October 7, 1982 Fine Letter 8359-007; 8365-011

The foregoing pages of the above documents, along with a copy of this Rule 1006 Summary, are contained in Debtors' Appendix of Rule 1006 Statements With Attached Information.

Dated: February 16, 2007

A handwritten signature in cursive script, reading "Traci S. Rea". The signature is written in dark ink and is positioned above a horizontal line.

Traci S. Rea, Esq.

UNITED STATES DISTRICT COURT

EASTERN DISTRICT OF LOUISIANA

U.S. DISTRICT COURT
EASTERN DISTRICT OF LOUISIANA

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LORETTA M. KYTE
CLERK

CIVIL ACTION

88-3844

NO.

SECT. 7 MAG. 2
SECT.

JURY TRIAL DEMANDED

JEFFERSON PARISH SCHOOL BOARD,
LAFOURCHE PARISH SCHOOL BOARD,
ST. CHARLES PARISH SCHOOL BOARD,
ST. TAMMANY PARISH SCHOOL BOARD,
THE ROMAN CATHOLIC CHURCH OF
THE ARCHDIOCESE OF NEW ORLEANS
and various CATHOLIC SCHOOLS,
ACADIA PARISH SCHOOL BOARD,
ALLEN PARISH SCHOOL BOARD,
BEAUREGARD PARISH SCHOOL BOARD,
CADDO PARISH SCHOOL BOARD,
CALCASIEU PARISH SCHOOL BOARD,
CAMERON PARISH SCHOOL BOARD,
EAST BATON ROUGE PARISH SCHOOL BOARD,
EVANGELINE PARISH SCHOOL BOARD,
IBERIA PARISH SCHOOL BOARD,
JACKSON PARISH SCHOOL BOARD,
JEFFERSON DAVIS PARISH SCHOOL BOARD,
LAFAYETTE PARISH SCHOOL BOARD,
LASALLE PARISH SCHOOL BOARD,
NATCHITOCHE PARISH SCHOOL BOARD,
ST. MARTIN PARISH SCHOOL BOARD,
VERMILLION PARISH SCHOOL BOARD and
WEBSTER PARISH SCHOOL BOARD

Plaintiffs,

VERSUS

W.R. GRACE AND COMPANY, NATIONAL
GYPSUM COMPANY and UNITED STATES
GYPSUM COMPANY.

Defendants.

ORIGINAL COMPLAINT

Plaintiffs, through their attorneys, state:

JURISDICTION

1. This Court has jurisdiction under 28 U.S.C.

1

28 U.S.C. 120.00
FILED
RECEIVED
EXHIBIT
INDEXED
SERIALIZED
FILED
U.S. DISTRICT COURT
EASTERN DISTRICT OF LOUISIANA
NO. 1

011285-000018

§ 1332 based on diversity of citizenship, under 28 U.S.C.

§ 1331, and under 42 U.S.C. § 9613 as a controversy arising under the Comprehensive Environmental Response, Compensation and Liability Act ("Superfund"). The amount in controversy in each Plaintiff's claim exceeds the sum of Ten Thousand and No/100 (\$10,000.00) Dollars, exclusive of interest and costs.

The Plaintiffs are all domiciled in the State of Louisiana and the Defendants are foreign corporations having their principal places of business in states other than Louisiana.

PARTIES

2. JEFFERSON PARISH SCHOOL BOARD, LAFOURCHE PARISH SCHOOL BOARD, ST. CHARLES PARISH SCHOOL BOARD, ST. TAMMANY PARISH SCHOOL BOARD, ACADIA PARISH SCHOOL BOARD, ALLEN PARISH SCHOOL BOARD, BEAUREGARD PARISH SCHOOL BOARD, CADDO PARISH SCHOOL BOARD, CALCASIEU PARISH SCHOOL BOARD, CAMERON PARISH SCHOOL BOARD, EAST BATON ROUGE PARISH SCHOOL BOARD, EVANGELINE PARISH SCHOOL BOARD, IBERIA PARISH SCHOOL BOARD, JACKSON PARISH SCHOOL BOARD, JEFFERSON DAVIS PARISH SCHOOL BOARD, LAFAYETTE PARISH SCHOOL BOARD, LASALLE PARISH SCHOOL BOARD, NATCHITOCHES PARISH SCHOOL BOARD, ST. MARTIN PARISH SCHOOL BOARD, VERMILLION PARISH SCHOOL BOARD and WEBSTER PARISH SCHOOL BOARD are political subdivisions of the State of Louisiana and constituted bodies corporate with powers to sue pursuant to the provisions of La.R.S. 17:52 and have the authority and power to recover any and all damages which occur to property in their

control pursuant to the provisions of La.R.S. 17:81. Each plaintiff is domiciled in the State of Louisiana in its respective parish. THE ROMAN CATHOLIC CHURCH OF THE ARCHDIOCESE OF NEW ORLEANS, a Louisiana non-profit corporation, CONGREGATION OF ALL SAINTS ROMAN CATHOLIC CHURCH, CONGREGATION OF THE CORPUS CHRISTI ROMAN CATHOLIC CHURCH, THE CONGREGATION OF THE EPIPHANY ROMAN CATHOLIC CHURCH, THE CONGREGATION OF THE HOLY GHOST ROMAN CATHOLIC CHURCH, THE CONGREGATION OF THE HOLY NAME OF MARY ROMAN CATHOLIC CHURCH, CONGREGATION OF THE IMMACULATE HEART OF MARY ROMAN CATHOLIC CHURCH, CONGREGATION OF THE MOST HOLY NAME OF JESUS ROMAN CATHOLIC CHURCH, THE CONGREGATION OF OUR LADY OF GOOD COUNSEL ROMAN CATHOLIC CHURCH, THE CONGREGATION OF NOTRE DAME DE LOURDES ROMAN CATHOLIC CHURCH OF THE PARISH OF ORLEANS, STATE OF LOUISIANA, THE CONGREGATION OF OUR LADY OF THE HOLY ROSARY OF THE ROMAN CATHOLIC CHURCH, CONGREGATION OF OUR LADY STAR OF THE SEA ROMAN CATHOLIC CHURCH, CONGREGATION OF ST. ANDREW THE APOSTLE ROMAN CATHOLIC CHURCH, CONGREGATION OF ST. ANTHONY OF PADUA ROMAN CATHOLIC CHURCH, THE CONGREGATION OF ST. CECELIA ROMAN CATHOLIC CHURCH, CONGREGATION OF ST. DAVID ROMAN CATHOLIC CHURCH, CONGREGATION OF ST. DOMINIC'S ROMAN CATHOLIC CHURCH, CONGREGATION OF ST. FRANCIS XAVIER CABRINI ROMAN CATHOLIC CHURCH, THE CONGREGATION OF ST. FRANCIS OF ASSISI ROMAN CATHOLIC CHURCH, THE CONGREGATION OF ST. GABRIEL ROMAN CATHOLIC CHURCH OF NEW ORLEANS, THE CONGREGATION OF ST. JAMES ROMAN CATHOLIC CHURCH FOR THE PARISH OF ORLEANS, STATE OF LOUISIANA, CONGREGATION OF ST. JOAN OF ARC

ROMAN CATHOLIC CHURCH OF THE PARISH OF ORLEANS, CONGREGATION OF ST. JULIAN EYMARD ROMAN CATHOLIC CHURCH, CONGREGATION OF ST. LEO THE GREAT ROMAN CATHOLIC CHURCH, THE CONGREGATION OF ST. MARY GORETTI ROMAN CATHOLIC CHURCH, CONGREGATION OF ST. MARY OF THE ANGELS ROMAN CATHOLIC CHURCH, CONGREGATION OF ST. MONICA ROMAN CATHOLIC CHURCH, CONGREGATION OF ST. PAUL ROMAN CATHOLIC CHURCH, CONGREGATION OF ST. PETER CLAVER ROMAN CATHOLIC CHURCH, THE CONGREGATION OF STS. PETER AND PAUL ROMAN CATHOLIC CHURCH, CONGREGATION OF ST. PHILIP ROMAN CATHOLIC CHURCH, CONGREGATION OF ST. PIUS X ROMAN CATHOLIC CHURCH, CONGREGATION OF ST. RAPHAEL ARCHANGEL ROMAN CATHOLIC CHURCH, CONGREGATION OF ST. RAYMOND'S ROMAN CATHOLIC CHURCH, CONGREGATION OF ST. RITA ROMAN CATHOLIC CHURCH, CONGREGATION OF THE MISSION OF ST. STEPHEN'S CHURCH, all Louisiana non-profit corporations, domiciled in the Parish of Orleans, State of Louisiana; CONGREGATION OF ST. LOUISE DE MARILLAC ROMAN CATHOLIC CHURCH, ARABI, LA., CONGREGATION OF OUR LADY OF PROMPT SUCCOR ROMAN CATHOLIC CHURCH, both Louisiana non-profit corporations domiciled in the Parish of St. Bernard, State of Louisiana; CONGREGATION OF OUR LADY OF PERPETUAL HELP ROMAN CATHOLIC CHURCH, CONGREGATION OF ST. PATRICK'S ROMAN CATHOLIC CHURCH, both Louisiana non-profit corporations domiciled in the Parish of Plaquemines, State of Louisiana; CONGREGATION OF THE ANNUNCIATION OF THE BLESSED VIRGIN MARY ROMAN CATHOLIC CHURCH, WASHINGTON PARISH, a Louisiana non-profit corporation domiciled in the Parish of Washington, State of Louisiana; THE CONGREGATION OF OUR LADY OF

THE LAKE ROMAN CATHOLIC CHURCH, THE CONGREGATION OF ST. PETER'S ROMAN CATHOLIC CHURCH, CONGREGATION OF OUR LADY OF LOURDES ROMAN CATHOLIC CHURCH, ST. TAMMANY PARISH, all Louisiana non-profit corporations domiciled in the Parish of St. Tammany, State of Louisiana; THE ROMAN CATHOLIC CONGREGATION OF ST. CHARLES, THE CONGREGATION OF THE SACRED HEART OF JESUS ROMAN CATHOLIC CHURCH, PARISH OF ST. CHARLES, both Louisiana non-profit corporations domiciled in the Parish of St. Charles, State of Louisiana; THE CONGREGATION OF ST. PETER ROMAN CATHOLIC CHURCH, CONGREGATION OF ST. JOAN OF ARC ROMAN CATHOLIC CHURCH OF LAPLACE, LOUISIANA, CONGREGATION OF OUR LADY OF GRACE ROMAN CATHOLIC CHURCH, all Louisiana non-profit corporations domiciled in the Parish of St. John the Baptist, State of Louisiana; CONGREGATION OF CHRIST THE KING ROMAN CATHOLIC CHURCH, THE CONGREGATION OF ST. ANTHONY ROMAN CATHOLIC CHURCH OF MCDONOGHVILLE, LA., THE CONGREGATION OF ST. JOSEPH'S ROMAN CATHOLIC CHURCH OF THE PARISH OF JEFFERSON, STATE OF LOUISIANA, CONGREGATION OF ST. RITA ROMAN CATHOLIC CHURCH, HARAHAN, CONGREGATION OF ST. ROSALIE ROMAN CATHOLIC CHURCH, CONGREGATION OF ST. AGNES ROMAN CATHOLIC CHURCH, THE CONGREGATION OF ST. MARY'S ROMAN CATHOLIC CHURCH OF KENNER, LOUISIANA, THE CONGREGATION OF THE IMMACULATE CONCEPTION ROMAN CATHOLIC CHURCH OF MARRERO, LA., CONGREGATION OF ST. JOSEPH THE WORKER ROMAN CATHOLIC CHURCH, CONGREGATION OF ST. CATHERINE OF SIENA ROMAN CATHOLIC CHURCH, CONGREGATION OF ST. CHRISTOPHER ROMAN CATHOLIC CHURCH, CONGREGATION OF ST. FRANCIS XAVIER ROMAN CATHOLIC

CHURCH, CONGREGATION OF ST. LAWRENCE THE MARTYR ROMAN CATHOLIC CHURCH, KENNER, LA., CONGREGATION OF ST. LOUIS, KING OF FRANCE, ROMAN CATHOLIC CHURCH, CONGREGATION OF ST. MARY MAGDALEN ROMAN CATHOLIC CHURCH, JEFFERSON PARISH, CONGREGATION OF ST. PHILIP NERI ROMAN CATHOLIC CHURCH, CONGREGATION OF ST. MATTHEW THE APOSTLE ROMAN CATHOLIC CHURCH, PARISH OF JEFFERSON, CONGREGATION OF THE ROMAN CATHOLIC CHURCH OF OUR LADY OF PROMPT SUCCOR OF WESTWEGO, JEFFERSON PARISH, all Louisiana non-profit corporations domiciled in the Parish of Jefferson, State of Louisiana; the following unincorporated elementary parochial schools, owned and operated or conducted under the auspices of The Roman Catholic Church of the Archdiocese of New Orleans: CATHEDRAL OF ST. LOUIS KING OF FRANCE, RESURRECTION OF OUR LORD, ST. ALPHONSUS, all in the Parish of Orleans; ST. ROBERT BELLARMINE, Arabi; ST. MARK, Chalmette; ST. JUDE, Diamond; ST. CLETUS, Gretna; ST. ELIZABETH ANN SETON, Kenner; ASCENSION OF OUR LORD, Laplace; VISITATION OF OUR LADY, Marrero; OUR LADY OF DIVINE PROVIDENCE, ST. ANGELA MERICI, ST. ANN, ST. BENILDE, ST. CLEMENT OF ROME, ST. EDWARD THE CONFESSOR, all situated in Metairie; ST. MARGARET MARY, Slidell; the following unincorporated secondary or special schools owned, operated or conducted under the auspices of The Roman Catholic Church of the Archdiocese of New Orleans: REDEEMER HIGH SCHOOL, New Orleans; SETON ACADEMY, New Orleans; ST. SCHOLASTICA, Covington; ARCHBISHOP BLENK HIGH SCHOOL, Gretna; ST. CHARLES HIGH SCHOOL, Laplace; ARCHBISHOP SHAW HIGH SCHOOL, Marrero;

ARCHBISHOP CHAPELLE HIGH SCHOOL, Metairie; ARCHBISHOP RUMMEL HIGH SCHOOL, Metairie; POPE JOHN PAUL II HIGH SCHOOL, Slidell; MT. CARMEL ACADEMY, New Orleans; CHINCHUBA INSTITUTE; HOPE HAVEN-MADONNA MANOR SCHOOL; THE LOUISE SCHOOL and ST. MICHAEL SPECIAL SCHOOL.

All hereinafter called "Plaintiffs".

The defendant, W. R. GRACE AND COMPANY, is a corporation organized and existing pursuant to the laws of the State of Connecticut, having its principal place of business in the State of New York;

The defendant, NATIONAL GYPSUM COMPANY, is a corporation organized and existing pursuant to the laws of the State of Delaware, having its principal place of business in the State of Texas;

The defendant, UNITED STATES GYPSUM COMPANY, is a corporation organized and existing pursuant to the laws of the State of Delaware, having its principal place of business in the State of Illinois;

All hereinafter called "Defendants".

BACKGROUND

3. Plaintiffs herein presently own and operate certain schools and other buildings. During the construction and/or renovation of some of these buildings, asbestos-containing ceiling and fire proofing materials manufactured by Defendants were incorporated therein. The asbestos-containing materials placed in Plaintiffs' similarly constructed buildings

are virtually identical products manufactured, designed, supplied, produced, advertised and marketed by Defendants during the same approximate time periods and for the same or substantially similar uses. These similar products have common ingredients and characteristics, all of which will be described hereinafter as they relate to Plaintiffs' similar building conditions and uses. The products can be characterized as generic asbestos-containing sprayed-on or troweled-on acoustical and decorative ceiling materials and fire proofing.

4. As part of, and incident to, the construction of said Plaintiffs' buildings, facilities, and additions, Defendants' asbestos-containing products were incorporated into the ceilings and walls of classrooms, hallways, auditoriums, cafeterias, offices, gymnasiums, and other rooms and areas located throughout the building which are regularly occupied by employees, students, teachers, and members of the public. Asbestos fibers were thereby impregnated into the building structures. At no time either prior to the time of sale, or at any time subsequent thereto, did Defendants provide or issue any warning that their products contained asbestos or that Plaintiffs' property would ultimately suffer injury and damage by reason of having to physically remove the asbestos products to eliminate health hazards posed to persons who utilized the buildings.

5. Prior to the use and application of Defendants' products, the ceilings and walls in Plaintiffs' buildings and

facilities were safe and unharmed; upon application of these products however, Plaintiffs' buildings have become unsafe and have been damaged because of the impregnation with asbestos-containing materials and fibers. Further, as will be shown, Defendants' products were not only unsafe and hazardous, damaging the ceilings and walls and other portions thereof, but such products also "broke down" and deteriorated with time, were friable, and caused the release of asbestos fibers into the buildings. Defendants' products have caused asbestos fibers to invade and damage the ambient environment of the buildings, the atmosphere, floors, carpets, upholstery, curtains, furniture, light fixtures, window sills, desks, and other physical property, requiring the removal, replacement, and renewal of such items. Such fibers have been carried throughout Plaintiffs' buildings, facilities, and additions by air circulation and by the ventilation systems of said buildings, facilities, and additions, thus contaminating the entirety of said buildings, facilities, and additions and posing a grave personal health and safety risk to Plaintiffs' students, teachers, visitors, employees, maintenance and custodial personnel and other building occupants. The presence and incorporation of said products into the constructed buildings has damaged the buildings and their value, and has caused an intrinsic hazard and unreasonable risk of injury to the health of all persons using and occupying Plaintiffs' buildings.

6. The presence of Defendants' asbestos-containing products in said buildings, facilities and additions presents a serious present and potential hazard and danger to the health and welfare of students, teachers, visitors, employees, maintenance and custodial personnel, other building occupants, and the general public. Such persons have and will continue to suffer injury, which occurs, at a cellular level, within a short time following the inhalation of invisible asbestos fibers in the course of their presence in and use of Plaintiffs' buildings. Asbestos fibers are known to cause numerous illnesses including lung, respiratory, and skin diseases and disorders, such as mesothelioma, asbestosis, gastrointestinal cancer, laryngeal cancer, lung cancer and other cancers. Furthermore, Defendants' products have released asbestos fibers into the surrounding atmosphere of the buildings which have probably invaded the lungs and pulmonary systems of an unknown number of building occupants, in whom asbestos disease may be developing, although the injury or disease may not be fully revealed for many years. The release of tiny respirable asbestos fibers, each potentially capable of causing injury and death, has occurred and is occurring in varying degrees over time, and therefore, the injury to Plaintiffs is insidious, unseen to the naked eye, and continuing.

7. Because of the presence of the dangerous and defective asbestos-containing products in the buildings and

facilities described hereinabove, Plaintiffs have been required to institute and have instituted various procedures or programs for the examination, assessment, and/or abatement of the hazards caused by Defendants' products. The total cost of which has not yet been fully ascertained. Plaintiffs, however, have already been required to expend substantial sums for said programs and, in addition, have incurred other resulting damages and suffered the disruption of their normal work activities and functions.

8. On June 14, 1980, the Asbestos School Hazard Detection and Control Act of 1980, 20 U.S.C. § 3601, et seq., was enacted. Congress found that the ". . . presence in school buildings of friable or easily damaged asbestos creates an unwarranted hazard to the health of the school children and school employees who are exposed to such materials."

9. On May 27, 1982, the United States Environmental Protection Agency (EPA) issued a rule under Section 6 of the Toxic Substances Control Act, 15 U.S.C. § 2605, at 47 Fed. Reg. 23360 (codified at 40 C.F.R. § 763), which requires "local education agencies" (covering both public and nonprofit elementary and secondary schools) to undertake specific tests to identify friable asbestos-containing building materials, and to maintain records and issue warnings and notifications to employees and parent-teacher associations concerning the presence of friable asbestos-containing material in the schools. EPA mandated, except in limited circumstances,

that all schools built before January, 1979 must undertake the expense of this testing program by June 28, 1983, regardless of whether asbestos is ultimately identified as present in those schools. This requirement was imposed as a result of the EPA Administrator's finding of an unreasonable risk of injury to human health.

10. On October 22, 1986, Congress enacted the Asbestos Hazard Emergency Response Act of 1986 ("AHERA"), 15 U.S.C. § 2641, et seq. AHERA requires local education agencies to identify and control all asbestos-containing materials in all school buildings, regardless of friability. Pursuant to the statutory mandate of AHERA, the EPA promulgated the AHERA Regulations, 52 Fed. Reg. 41825 (Oct. 30, 1987), to be codified at 40 C.F.R. Part 763, Subpart E, §§ 763.80-763.99. These Regulations establish a comprehensive regulatory scheme requiring all schools to undertake inspections and develop management plans for all buildings, to implement appropriate response actions, including operations and maintenance and abatement responses, and to control all asbestos-containing materials. The AHERA Statute and Regulations as promulgated reflect Congress' consideration that the hazard posed by asbestos-containing materials in schools consists of actual exposure to asbestos fibers and potential exposure to releases of asbestos resulting from normal and necessary building use.

11. Plaintiffs have not yet identified all of the manufacturers of asbestos-containing materials in their school

buildings and other facilities but are in the process of doing so at this time. Plaintiffs did not identify, more than five (5) years prior to the filing of this lawsuit, any Defendant as the manufacturer of any asbestos-containing material in Plaintiffs' buildings.

CAUSES OF ACTION

I. STRICT PRODUCT LIABILITY

12. Plaintiffs have now obtained information and allege that Defendants mined and distributed, manufactured and distributed, and/or supplied asbestos fibers, materials or ingredients used in the construction or renovation of Plaintiffs' buildings, facilities and additions, or in the formulation of the asbestos-containing plasters and materials incorporated therein. Plaintiffs allege that Defendants formulated, designed, manufactured, supplied and processed said asbestos fibers, materials, and acoustical plaster materials and building products which were sold, distributed or applied within the State of Louisiana; that these asbestos-containing products and materials were in a defective condition rendering them unreasonably dangerous to the ultimate user or consumer. Plaintiffs further allege that, during relevant times herein, Defendants were engaged in the business of selling such products which were expected to and did reach the ultimate users or consumers in Louisiana (Plaintiffs) without substantial change in the condition in which said products were sold. As a result, damages have been suffered by Plaintiffs.

13. Defendants are liable to Plaintiffs regardless of whether Defendants exercised all possible care in the preparation and sale of its products and/or whether the Plaintiffs purchased the products directly or entered into contractual relationships with Defendants as sellers or suppliers and/or whether Plaintiffs purchased buildings containing such products and materials subsequent to their construction.

14. Plaintiffs allege that the aforementioned products containing asbestos minerals or fibers were defective, unreasonably and intrinsically dangerous, hazardous and toxic, unsafe, and were unfit for the uses for which they were intended. Plaintiffs further allege that at or before the time Defendants sold or departed with control of said materials or products and before the materials or products were distributed, transferred, sold, or placed upon the market or in the stream of commerce by Defendants, there were feasible ways to design Defendants' products with less harmful consequences of which Defendants, held to the standard and skill of experts, should have been aware and could feasibly have utilized, yet failed to do.

15. Defendants, held to the standard and skill of experts, knew or should have reasonably known of the dangers inherent to the use and handling of asbestos-containing products and could have feasibly utilized alternative products with less harmful consequences, which they failed to do. The

sale, distribution and handling of said hazardous substances by Defendants evidenced their wanton and reckless disregard for public safety.

16. No adequate warnings were given by the Defendants regarding the dangerous and hazardous propensities and nature of their asbestos-containing products, nor of the tendencies of such materials or products to become friable and deteriorate despite the fact that Defendants knew or should have known from available scientific and medical literature, including testing and research, that such asbestos-containing products and the manner in which they were handled and incorporated into buildings were unreasonably dangerous and hazardous to Plaintiffs' visitors, employees, school children, maintenance and custodial personnel and all other persons who might be present in or who utilize such buildings. Plaintiffs allege that even though Defendants had superior knowledge, they gave absolutely no adequate warnings regarding the dangerous nature and propensities of their products.

17. Defendants further failed to issue instructions and warnings as to the proper safeguards and maintenance, if any, in using and/or applying their asbestos-containing products and materials, in constructing buildings with such products and materials, and in maintaining the products and materials. Defendants further failed to conduct adequate testing and research of such asbestos-containing products and materials to determine the anticipated use-life

and/or to develop and issue adequate instructions in order to prevent the harm and damage herein set forth and the reckless disregard of public safety.

18. Even if the risks and hazards related to the use of Defendants' asbestos-containing products were not discoverable under existing technology at the time they were designed and marketed, Defendants' products were unreasonably dangerous per se because of the intrinsically dangerous toxic and hazardous characteristics of such products, including the intrinsically dangerous construction, composition and design thereof. Whether or not Defendants actually perceived or could have perceived the dangers of their products at the time they were designed and marketed, a reasonable person would conclude that the danger-in-fact of these products, whether foreseeable or not, actually out-weighed the benefits which flowed from their use.

19. Plaintiffs specifically allege that Defendants' asbestos-containing products are unreasonably hazardous and dangerous per se and are defective as a matter of law.

20. By reason of the above, Defendants have breached a legal duty to Plaintiffs which constitutes the producing cause of Plaintiffs' injuries and damages.

II. REDHIBITION

21. The asbestos contained in the products furnished by Defendants to Plaintiffs constituted a vice or

defect in such products which rendered such products absolutely useless or their use so inconvenient and imperfect that Plaintiffs would not have purchased them had they known of the existence of such vices and defects. Defendants, as manufacturers, are presumed to have known the defects in the products they manufacture whether or not they had actual knowledge thereof.

22. Defendants did not advise, notify or declare the vices of their products to Plaintiffs and are, therefore, liable to Plaintiffs as bad faith sellers for the restitution of the purchase price, repayment of all incidental expenses, including reasonable attorneys' fees, and are answerable to Plaintiffs in damages for such amount as the evidence shall establish at the time of trial.

III. WARRANTY

23. Defendants are guilty of numerous breaches of express and/or implied warranties proximately causing Plaintiffs' injuries and damages set forth herein. The Defendants expressly represented and warranted by way of advertisement and in other methods calculated to reach Plaintiffs and influence their decision to purchase and use Defendants' products that the products were safe and suitable for use in public buildings. Defendants impliedly warranted that their products were fit for the purposes for which they were intended and were of merchantable quality and fit for the ordinary purposes for which such goods are used.

24. In truth and in fact, Defendants' products contained millions of asbestos fibers which were and are slowly released into breathing zones over time and were and are a hazard to human health and in fact said products were unfit and unsafe for use in public buildings under any circumstances.

25. Defendants had direct knowledge at the time they sold the goods and products to Plaintiffs that said products contained asbestos fibers and they also had knowledge of the real hazards thereof. Defendants breached such warranties and such breaches constituted a proximate cause of Plaintiffs' injuries and damages.

26. Further, Plaintiffs allege that Defendants made, in connection with the sale and distribution of their asbestos-containing products, a warranty of habitability and/or merchantability in connection with each such product intended to be incorporated into the construction of Plaintiffs' buildings. Defendants breached and violated their duty herein, thereby proximately causing and producing Plaintiffs' injuries and damages.

IV. NEGLIGENCE AND CONTINUING NEGLIGENCE

27. Plaintiffs show that Defendants committed acts and/or omissions constituting negligence in connection with the design, formulation, storage, handling, transportation, manufacture, sale, distribution and marketing of their asbestos-containing products which acts and/or omissions were the proximate cause of Plaintiffs' injuries and damages. In so

doing, Defendants demonstrated a wanton, reckless and complete disregard for public safety in the handling of this hazardous and dangerous substance.

28. When Defendants caused their asbestos-containing products to be placed into the stream of commerce, they knew, or in the exercise of ordinary care, should have known, that a health hazard would result therefrom; that the products would deteriorate when subjected to ordinary building uses, would become friable, would release harmful asbestos fibers into the surrounding area, and would invade not only the buildings themselves and other property but also the lungs and bodies of people utilizing the buildings; all of which would render it necessary to physically remove the products in order to eliminate the hazards.

29. Defendants were negligent in failing to conduct adequate testing and research of their products; in failing to inspect their products; in failing to warn the users and consumers of all known or discoverable dangers; and in failing to issue instructions regarding proper methods of use and maintenance of the products which would minimize or mitigate the dangers inherent in the use of such products.

30. As a proximate cause and result of Defendants' acts and/or omissions all of which constitute negligence as herein set forth, Plaintiffs have been injured and damaged by reason of the contamination, resulting health hazard, and will have to physically remove or abate the hazard and

contamination. Such negligence on the part of Defendants was, and is, continuing as Defendants have never provided either adequate warnings or instructions to Plaintiffs.

V. FRAUDULENT CONCEALMENT

31. Prior to placing their defective products on the market, Defendants had knowledge of, access to and possessed medical, scientific and other studies, test results and data which clearly established that asbestos-containing materials and products were hazardous to the public health and safety and that exposure to asbestos-containing products would result in a high risk of personal injury and death. Such knowledge was obtained in part from scientific studies performed by, at the request of, or with the assistance of Defendants.

32. Defendants, with the intent to deceive Plaintiffs and with further intent to conceal from Plaintiffs medical and scientific data establishing the hazardous nature of their products, did commit certain acts of fraudulent concealment in order to induce Plaintiffs to alter their position to Plaintiffs' detriment and to gain an advantage for Defendants, as hereinafter set forth:

- a) By not issuing an adequate warning or placing a warning label on their products, Defendants deliberately suggested to Plaintiffs that it was in fact safe for a person to occupy and utilize buildings constructed with Defendants' asbestos-containing materials;

- b) Defendants deliberately concealed the hazardous nature of their products from Plaintiffs by not revealing the fact that use of Defendants' products could result in the release of asbestos fibers into the air which, if inhaled, would bring about pathological effects without noticeable trauma. Defendants knew that their asbestos-containing products were dangerous and posed an unreasonable threat and risk to the health of persons coming in contact therewith. Defendants had a duty to disclose such information to Plaintiffs and failed to do so;
- c) Defendants deliberately concealed from Plaintiffs the true nature of the hazards inherent in the use of their products, in that Defendants knew that the occupants of Plaintiffs' buildings, upon inhalation of asbestos fibers, would in time develop irreversible lung damage, and would immediately be in danger of ill health;
- d) Defendants deliberately failed to provide medical and scientific information to the public at large which would have revealed the true nature of the hazards presented by the use of asbestos and asbestos-containing materials and actively concealed such medical and scientific facts from the public and from Plaintiffs.

33. With full knowledge of the dangers which would unavoidably result from the use of their products, Defendants deliberately chose to design, formulate, store, handle,

transport, manufacture, sell, distribute and market their
asbestos-containing products without attempting to protect all
persons who would foreseeably be exposed to their products,
including the occupants of Plaintiffs' buildings, or to warn
them of the high risk of injury and death resulting from
exposure to their products. Rather than attempting to protect
such persons from, or warn such persons of, the high risk of
injury and death resulting from exposure to their products,
Defendants intentionally failed to reveal their knowledge of
said risk and consciously and actively concealed and suppressed
their knowledge from members of the general public, thus
impliedly representing to members of the general public that
their asbestos-containing products were safe to use, all the
while knowing the complete falsity of their representations.

34. Each of the foregoing acts and forbearance to
act when a duty existed to act, when Defendants knew the
occupants of Plaintiffs' buildings and others would innocently
breathe such material, was done falsely and fraudulently and
with full intent to induce Plaintiffs to incorporate
Defendants' hazardous asbestos-containing products into
Plaintiffs' buildings and to cause Plaintiffs to remain unaware
of the true facts with regard to the hazards inherent in the
use of Defendants' asbestos-containing products.

35. As a result of the active, and/or, passive
fraud and misrepresentations of Defendants, Plaintiffs have
been damaged as herein set forth.

VI. CONSPIRACY

36. Plaintiffs allege that all of Defendants conspired to commit the acts and deliberate omissions described in the preceding paragraphs. Specifically, Plaintiffs alleged that Defendants conspired to intentionally fail to warn Plaintiffs and fraudulently concealed from Plaintiffs and the public at large the dangers inherent in the use of their asbestos-containing products. Plaintiffs allege that Defendants have been aware of, or have been in possession of, medical and scientific literature and facts for many years prior to Plaintiffs' purchase of their asbestos-containing products which indicated the hazardous nature of those products and that Defendants not only ignored and failed to act upon said medical and scientific evidence but actually conspired to prevent Plaintiffs from learning the true facts with regard to the hazards of their products, and therefore deprive Plaintiffs of the opportunity to decide freely as to whether or not there was a significant health risk which would result from the use of Defendants' asbestos-containing products in Plaintiffs' buildings. Defendants' conspiracy and intentional misconduct were motivated by their mutual financial interests in the uninterrupted distribution and marketing of their products.

37. Plaintiffs allege on information and belief, that Defendants continue to participate in an active and/or passive conspiracy to deprive Plaintiffs of the essential facts and knowledge with regard to the health risks inherent in the

use of their asbestos-containing products.

38. As a direct and proximate result of the active and/or passive conduct, acts, and/or omissions of Defendants, Plaintiffs have been damaged as herein set forth.

VII. INDEMNIFICATION

39. Further, and as grounds for additional relief, Plaintiffs allege that some school workers and other personnel who may have been exposed to the asbestos fibers and particles run the risk of contracting diseases peculiar to asbestos exposure heretofore set forth. For their protection and to minimize damages, a comprehensive health screening program may need to be instituted and maintained on such frequency as may be medically advisable.

40. Plaintiffs are entitled to full and complete indemnification from Defendants for all reasonable costs that may be incurred in instituting such a comprehensive health screening program.

VIII. SUPERFUND

41. Under section 107 of Superfund, 42 U.S.C. § 9613, Comprehensive Environmental Response, Compensation And Liability Act, any person who arranged for disposal or treatment of a hazardous substance at a facility owned by another is liable for response costs incurred by any person, consistent with the National Contingency Plan ("NCP"), as a result of any release or threatened release of the hazardous substance from the facility at which the hazardous substance

was disposed or treated.

42. Under Superfund, the term "disposal" includes the placing of a hazardous substance at a facility; the term "release" includes any emitting or escaping of a hazardous substance to the environment; and the term "facility" includes any installation, site or area where hazardous substances have been deposited or placed.

43. The definition of the term "hazardous substance" under Superfund includes, among others, any hazardous air pollutant listed under section 112 of the Clean Air Act ("CAA") and any toxic pollutant listed under, among others, section 307 of the Federal Water Pollution Control Act ("FWPCA"). Asbestos is listed a hazardous air pollutant under section 112 of the CAA and a toxic pollutant under section 307 of the FWPCA and is therefore a hazardous substance under Superfund.

44. Defendants knew or should have known the health hazards of asbestos at the time that they mined, stored, manufactured, processed, produced, sold, merchandised, distributed, handled, supplied, or otherwise placed in the stream of commerce asbestos or products containing asbestos used in Plaintiffs' buildings or facilities. Because most, if not all of the asbestos and products containing asbestos in Defendants' stores, reserves, raw materials and inventories would have been worthless to Defendants if the dangerous characteristics of asbestos were widely known at the time,

Defendants intentionally concealed that information for pecuniary motives and chose to continue to arrange for the sale, transportation, handling, distribution, and delivery of its asbestos and products containing asbestos, by contract, agreement or otherwise, for ultimate deposition in, among others, Plaintiffs' buildings, facilities, and additions.

45. Defendants arranged for the disposal or treatment of asbestos in Plaintiffs' buildings and facilities within the meaning of Superfund.

46. Defendants' asbestos or products containing asbestos in Plaintiffs' buildings, facilities, and additions have released, or are releasing and threaten to release asbestos into the environment.

47. The release and threatened release of asbestos have caused Plaintiffs to incur or commit to response costs to remove the asbestos, or to contain the release of Defendants' asbestos, from their buildings, facilities, and additions, and to remedy the environmental damage caused by the asbestos released. Response costs already incurred or committed include (a) expenses for inspection and consultation fees; (b) expenses for analysis and testing; (c) expenses for protective equipment or clothing for inspection and maintenance of the asbestos-containing materials; (d) expenses for temporary relocation of activities in the affected buildings; (e) costs for removal of abatement of the asbestos hazard; and (f) costs for replacement of the asbestos-containing materials with non-hazardous

materials. Plaintiffs will incur additional costs as their response continues to remedy the hazards created by Defendants' asbestos or asbestos-containing products.

48. The response actions undertaken by Plaintiffs are consistent with the National Contingency Plan.

IX. EXEMPLARY DAMAGES

49. As described in paragraphs aforesaid, Defendants acted and intended to act willfully, knowingly, and with gross disregard for the rights of Plaintiffs and the public at large. Defendants' conduct exhibited reckless and wanton disregard for the rights of Plaintiffs and constituted gross negligence and intentional misconduct.

50. Plaintiffs' injuries and damages are and have been caused by Defendants' wanton or reckless disregard for public safety in the storage, handling or transportation of their asbestos-containing products, as described above.

51. Pursuant to La.C.C. Art. 2315.3, Plaintiffs are entitled to exemplary damages from Defendants in such amount as is just and proper, but not less than three times actual or compensatory damages.

ITEMIZATION OF DAMAGES

52. As a result of the foregoing, Plaintiffs are entitled to and demand the following damages:

- a. Cost of inspection, monitoring, consultation and compliance with various federal and state regulations regarding Defendants' asbestos-containing products;
- b. Cost of analysis and testing of Defendants' asbestos-containing products;

- c. Cost of removal or abatement of the asbestos hazard caused by Defendants' products;
- d. Cost of replacement of the asbestos-containing materials with non-hazardous materials;
- e. Expenses for temporary relocation of activities in the effected buildings;
- f. A reasonable cost allocated to maintenance and overhead for carrying out the above described activities;
- g. Cost of health screening of school workers and others who are exposed to the asbestos from Defendants' products in Plaintiffs' buildings;
- h. Reasonable attorneys' fees incurred in prosecuting this action; and
- i. Punitive or exemplary damages of at least three times the amount of compensatory damages set forth herein.

53. Plaintiffs do not know and do not at this time allege a specific dollar amount of damages, but are simply seeking the reasonable damages set forth herein. Plaintiffs specifically reserve their right at a later date to amend their complaint to include a specific dollar amount of damages..

DEMAND FOR JURY TRIAL

54. Plaintiffs demand a jury trial on all issues.

WHEREFORE, PREMISES CONSIDERED: Plaintiffs are entitled to a judgment against Defendants for general, special and exemplary damages in an amount which the evidence shall show proper at the time of the trial of this matter, plus reasonable attorneys' fees, together with costs and disbursements herein and legal interest from date of demand until paid, and for all general and equitable relief.

Respectfully submitted,

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Catholic Schools

AO 440 (Rev. 5/85) Summons in a Civil Action

United States District Court

EASTERN

DISTRICT OF

LOUISIANA

JEFFERSON PARISH SCHOOL BOARD, ET AL

SUMMONS IN A CIVIL ACTION

Plaintiffs,

v.

CASE NUMBER:

W.R. GRACE AND COMPANY, ET AL

Defendants.

8-3844
SUGG. 10-16-2

TO: (Name and Address of Defendant)

W.R. GRACE AND COMPANY
Through its agent for service or process,
C.T. CORPORATION SYSTEMS
601 Poydras Street
New Orleans, Louisiana

YOU ARE HEREBY SUMMONED and required to file with the Clerk of this Court and serve upon

PLAINTIFF'S ATTORNEY (name and address)

JACK A. GRANT, T.A.
ERNEST E. BARROW, II
Grant & Barrow
238 Huey P. Long Avenue
P. O. Box 484
Gretna, Louisiana 70054

(AND OTHER ATTORNEYS DESIGNATED ON COMPLAINT)

an answer to the complaint which is herewith served upon you, within twenty (20) days after service of this summons upon you, exclusive of the day of service. If you fail to do so, judgment by default will be taken against you for the relief demanded in the complaint.

LORET A. G. WHITE

AUG 31 1988

CLERK

DATE

BY DEPUTY CLERK

Environmental Protection Agency
Washington, D.C. 20460
March 1979
Toxic Substances

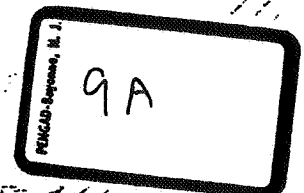


Asbestos-Containing Materials in School Buildings:

Part 1

A Guidance Document

ARCH 04530



March 16, 1979

Dear School Officials:

Until recently exposure to asbestos was generally considered an occupational health hazard for asbestos workers. However, now we have learned of an equally serious exposure problem that can occur in all types of buildings in which certain asbestos-containing materials have been used for fireproofing, insulation, and decoration. Asbestos can be released from these materials and contaminate the building environment. Individuals who are then exposed to the asbestos could develop lung cancer or cancers of other parts of the body. Unfortunately, detection of asbestos-related diseases is difficult since the latency period between exposure and appearance of the disease is sometimes as many as 20 to 40 years.

Since these materials are found in school buildings, we at EPA are particularly concerned with the exposure of school children. EPA has worked with the States to develop a program that responds to the need for accurate information and guidance to deal with this difficult problem. The enclosed manuals are a major part of this program and are being mailed to all public school districts. They were prepared to inform you of the health hazards associated with asbestos and outline the steps you and the schools in your district can take to identify asbestos-containing materials and to protect students and school personnel from exposure.


ARCH 04532

Also participating in this EPA program are the Department of Health, Education, and Welfare, the Occupational Safety and Health Administration, and the Consumer Product Safety Commission. Through the Regional Offices located in major cities across the country, EPA and these Agencies will provide assistance for the difficulties that you may encounter in undertaking a control program in your schools. We are operating several toll-free numbers that you can call to ask for information and assistance. A videotape that was prepared to supplement this manual will also be available for your use.

A survey form is included in this manual. The form asks questions on the results of the control programs you conduct in your schools. Your participation in this part of the EPA program would be appreciated. By completing the form you will assist us in assessing the extent of the asbestos-containing material problem in the United States.

I encourage you and your staff to review the enclosed manuals and inform the schools in your district of the EPA program. A successful nationwide school asbestos program depends on your efforts and those of school officials across the country. We look forward to working with you in the important weeks and months ahead.

Sincerely,


Steven D. Jellinek
Assistant Administrator
for Toxic Substances

ARCH 04533

Chapter 4: Inspecting for Friable Material

All areas including student, administrative, maintenance, and custodial areas in the building should be visually inspected for friable asbestos material. If friable material is located, it must be sampled and analyzed for asbestos content. The fact that material is friable does not establish that asbestos is present.

Which schools should be inspected?

Schools built or renovated during the period following World War II to 1978 should be inspected. Although the spray application of asbestos materials for reproofing and insulation was prohibited in 1973 by P.A., spray application for nearly all uses of these materials was not prohibited until 1978.

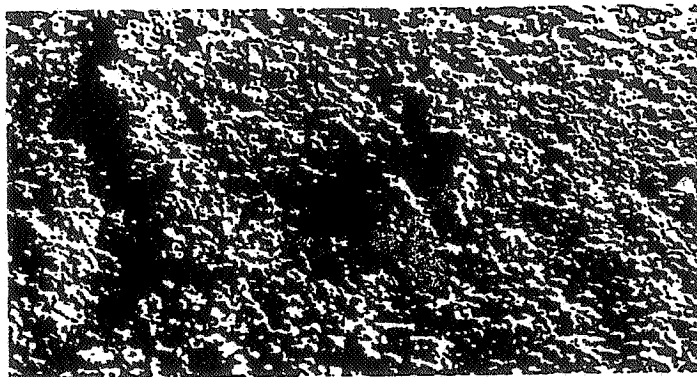
Where will friable material be found?

Friable material is commonly found on steel support beams and columns and on ceilings and walls of classrooms, corridors, auditoriums, cafeterias, machinery rooms, and storage rooms. It also may be found on overhead surfaces of indoor pools and gymnasiums.

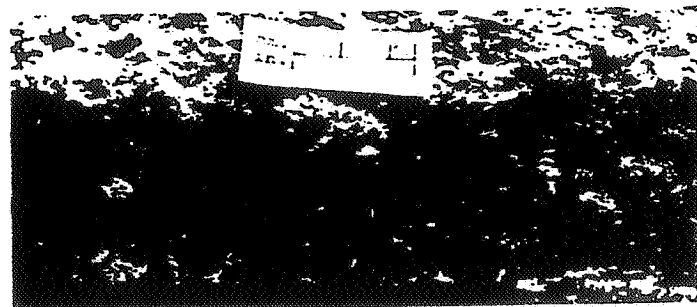
What will friable material look like?

Friable material can have the following characteristics:

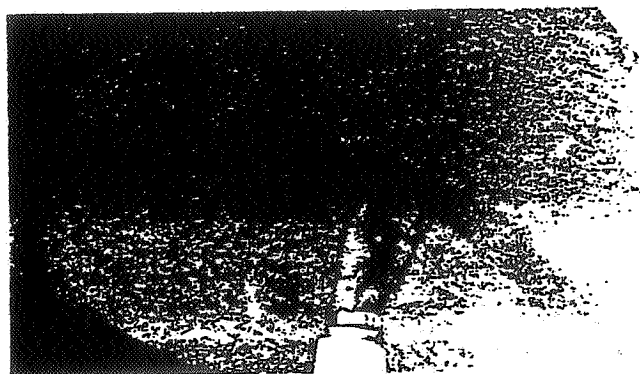
- Fluffy or spongy appearance (always applied by spraying)



- Irregular, soft surface (usually applied by spraying)



- Textured, dense, fairly firm surface (usually applied by troweling)



If friable material has been damaged or is deteriorating, the material may be flaking or pieces may be hanging from the surface of the material.

Should inspections be made above suspended ceilings?
Inspections should be made above suspended ceilings. Asbestos material may have been applied to the original ceiling, steel beams, and other surfaces above the suspended ceiling.

If the overhead space between the suspended ceiling and original ceiling is part of the building's air circulation system, fibers which have been released from deteriorating or damaged material could travel throughout the ventilation system to other areas in the building.

Settled asbestos fibers or fallen ceiling material may cover the upper surface of the suspended ceiling panels. In this case moving or removing the panel will cause fiber release.

When inspecting above suspended ceilings, the following precautions should be taken:

- The ceiling should be inspected when the area is not in use.
- If the overhead space is part of the air circulation system (air plenum), the system should be shut down during inspection.
- Only persons necessary to assist in the inspection should be present.
- The National Institute for Occupational Safety and Health (NIOSH) recommends that the person inspecting wear an approved respirator. Contact the

NIOSH Regional Offices listed in Appendix E for information on approved respirators.

Should building records be checked?

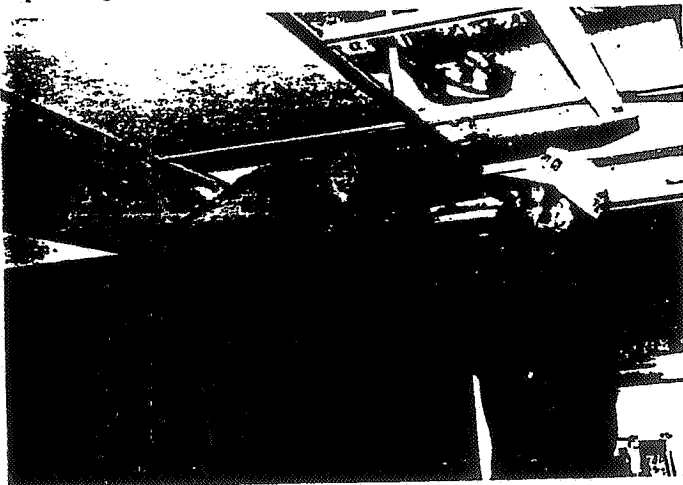
Building construction records can be checked as a supplementary measure to determine if asbestos materials were listed in the building specifications. However, since building records may be unreliable, checking records should not take the place of visually inspecting school buildings.

What is the next step if friable material is located?

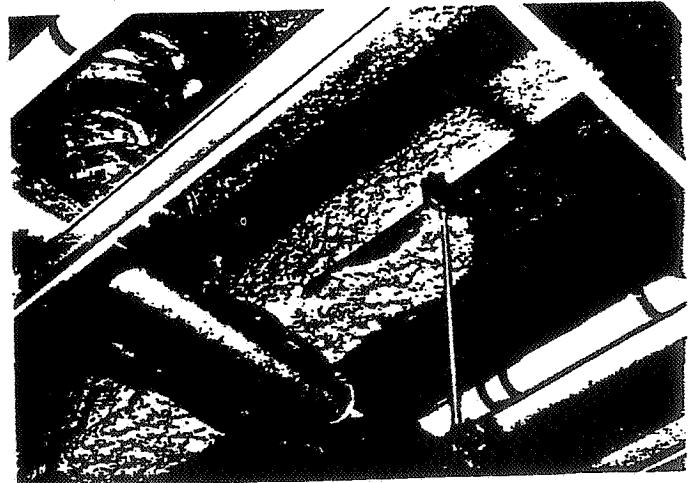
If friable material is located during inspection, a sample of the material itself should be taken for laboratory analysis. Chapters 5 and 6 have instructions for sampling and information on recommended analytical techniques to identify asbestos fibers in friable material samples.

What if no friable material is located?

If no friable material is located during visual inspection, a dated report stating that no material has been located in the school building should be prepared. The report should identify which areas of the building were visually inspected and if the building records were also checked. A copy of this report should be kept in a school asbestos program file.



Removing Suspended Ceiling Panel For Inspection



Area Above Suspended Ceiling With Friable Material

ARCH 04544

United States
Environmental Protection
Agency

Office of
Toxic Substances
Washington, D.C. 20460

C00090
March 1979

Toxic Substances

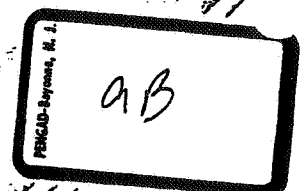


Asbestos- Containing Materials in School Buildings:

Part 2

A Guidance Document

ARCH 05161



PART I

ASBESTOS: BACKGROUND, ENVIRONMENTAL CONTAMINATION,
STANDARDS, AND ANALYSIS

ARCH 05229

1. INTRODUCTION

1.1 NATURE OF ASBESTOS

In recent years, there has been an increasing awareness of the importance of environmental factors in carcinogenesis. Asbestos has become a widespread environmental contaminant for large segments of our society, and has caused fibrosis and malignancies of the lung and other organs. The mineral fibers resist degradation, and persist in the environment. Because of fibrous form and small size they possess the aerodynamic capability of prolonged suspension in air and repeated cycles of reentrainment. Asbestos fibers, even in low concentration, may have carcinogenic potential, and a biologic activity that may persist for the lifetime of an exposed host.

Asbestos is a generic term applied to a wide chemical variety of naturally occurring mineral silicates which are separable into fibers. The six major recognized species of asbestos minerals are chrysotile of the serpentine group ("white asbestos"); and cummingtonite-grunerite asbestos (also amosite or "brown asbestos"), crocidolite ("blue"), anthophyllite asbestos, tremolite asbestos, and actinolite asbestos of the amphibole group. Specific attributes and characteristics vary with the different types, but the commercially valuable asbestos minerals, in general, form fibers which are incombustible, possess high tensile strength, good

thermal and electrical insulating properties, and moderate to good chemical resistance. They may be packed, woven, or sprayed. These characteristics of durability, flexibility, strength, and resistance to wear make asbestos well-suited for an estimated 3,000 separate commercial, public, and industrial applications.¹ These include roofing and flooring products; fireproofing textiles; friction products; reinforcing material in cement, pipes, sheets, and coating materials; and thermal and acoustical insulations. Asbestos has widespread application in all industrial societies and is a nearly indispensable and ubiquitous material.²⁻⁴

Historically, asbestos remained a curiosity for centuries, with negligible production until the beginning of the 20th century when it was used as thermal insulation for steam engines. Worldwide production of the mineral now approaches 5 million tons annually, with chrysotile the principal fiber type.⁵ Annual United States consumption is approximately 900,000 tons, with more than 70 percent used in the construction industry.

It has been estimated that a majority (85 to 92 percent) of end-product uses have effectively immobilized the asbestos fibers by mixing them into a strong binding material; e.g., cement.⁶ Fibers are still liberated, however, during fabricating operations such as grinding, milling or cutting. The remaining 8 to 15 percent is in a form that will more readily permit fiber dissemination, such as friable insulation material or bagged fibers for mixing.

1.2 SPRAY APPLICATION OF ASBESTOS

Of the many uses of asbestos, the technique of spraying fibers onto structural surfaces has been perhaps the most significant in causing asbestos exposure to construction workers during application and to the general

population thereafter. Such material, in loosely bonded friable form, has been applied extensively to steelwork to retard structural collapse during fire, and to overhead surfaces for purposes of acoustic and thermal insulation, decoration, and condensation control.

Spray application of asbestos fireproofing and insulating material began in England in 1932. Spray application offered the advantage of rapidly covering large or irregular surfaces evenly and efficiently without the use of mechanical support or extensive surface preparation. Early spray applications in the U.S. were mainly for decorative use and acoustical insulation in ceiling material in clubs and restaurants. In 1950 more than half of all multistory buildings constructed in the U.S. used some form of sprayed mineral fiber fireproofing.⁷ In 1968 fireproofing alone accounted for 40,000 tons of sprayed material.⁸

The health hazards of spray application of asbestos to spray operators, other construction workers, and the general public in the vicinity of such operations were recognized and documented.⁹ Because of these hazards, the New York City Council banned spray application in 1972.¹⁰ Other cities and states followed suit, and in 1973 the U.S. Environmental Protection Agency (EPA) banned spray application of insulating or fireproofing material containing more than 1 percent asbestos by weight.¹¹ Decorative materials were not included in the ban, and this omission permitted some continuing application. One example involved all overhead surfaces in the large (1200 unit) condominium complex using a friable mixture of 30 percent asbestos.¹²

On March 2, 1977, EPA proposed an amendment to the national emission standard for asbestos.¹³ These amendments would extend the spraying

restrictions to all materials which contain more than 1 percent asbestos by weight.

Numerous substitutes for sprayed asbestos materials are currently available.¹⁴ Most spray materials currently in use contain fibrous glass or nonasbestos mineral fibers along with cement, gypsum, or other binders similar to those used for asbestos. These materials can be used for fireproofing, thermal and acoustical insulation, and decoration.

The possible carcinogenicity of replacement materials, especially fibrous glass, is under investigation. The physical dimensions of glass fibers are much larger than asbestos fibers, and currently there is no epidemiologic study demonstrating carcinogenicity of this product. Recent experimental work has indicated carcinogenic potential of fibrous glass with dimensions reduced to approximately the size of asbestos fiber,¹⁵ and similar findings with other minerals may occur in the future.

1.3 POTENTIAL FOR ENVIRONMENTAL CONTAMINATION

Environmental contamination from asbestos-containing surfaces can occur not only during construction and demolition, but also throughout the life of the structure. Frequently these surfaces are exposed or accessible (see Figure I-1-1). They can include open and visible sprayed ceilings, walls, or structural members, or surfaces hidden by suspended ceiling systems accessible to maintenance personnel.

The proportion by weight of asbestos in asbestos-containing material found in sprayed ceilings or overhead surfaces is generally in the 10 to 30 percent range but may vary from essentially none to nearly 100 percent.¹⁶ The remainder may be fibrous glass, various other fibers, and adhesives. As in other uses, chrysotile asbestos is the most common fiber type.

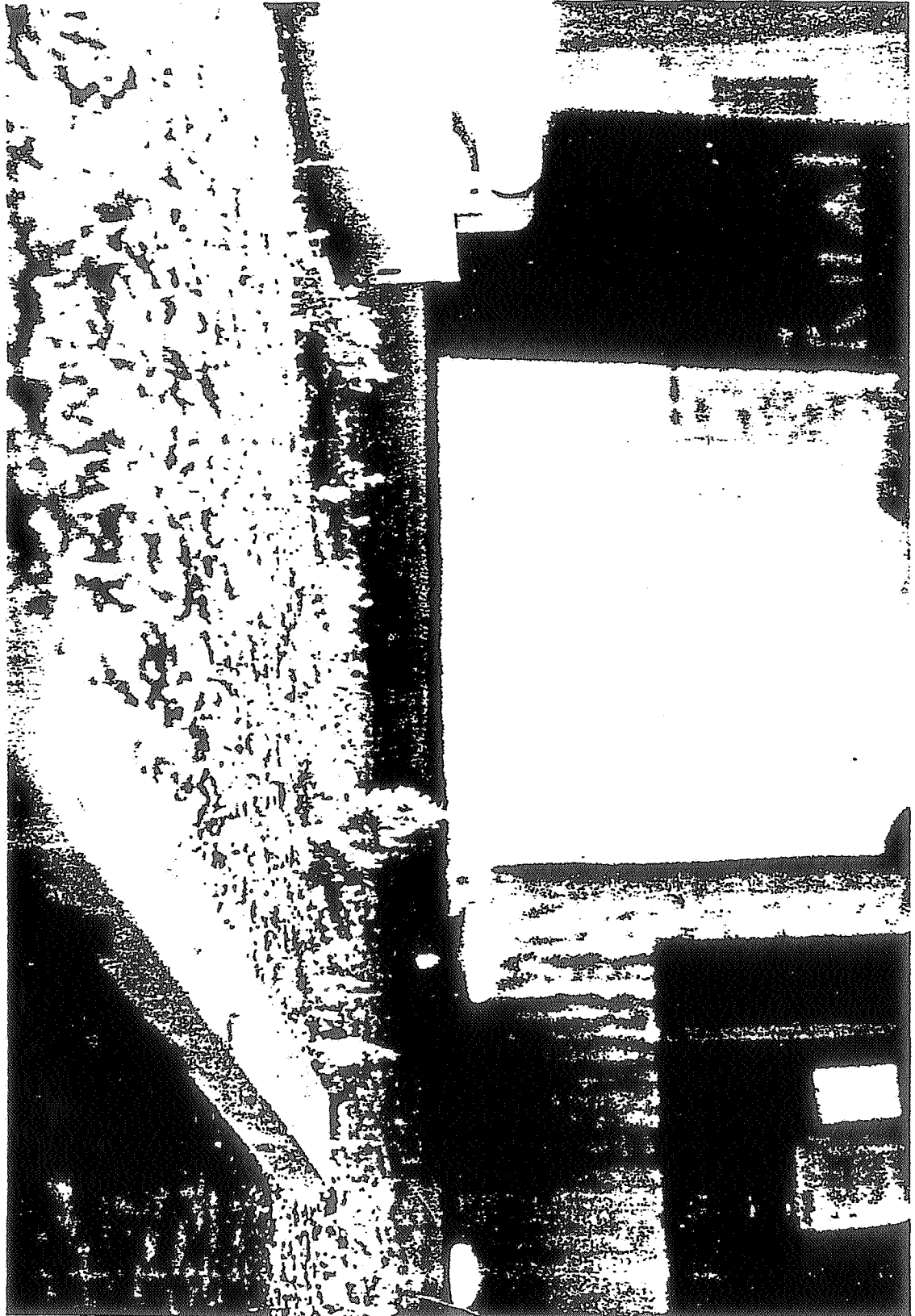


Figure I-1-1. Friable asbestos-containing material hanging from damaged ceilings.

I-1-5

ARCH 05234

Although the spraying of friable asbestos-containing materials in construction has all but ceased, sprayed material within existing structures remains a potential widespread source of asbestos fiber exposure. Although exact figures are not available, if it is assumed that spray application was a common practice from 1958 to 1973, and that fireproofing was the major use of this material, a conservative order-of-magnitude estimate of the total amount of asbestos sprayed over this period would be 500,000 tons. It is indeed possible, therefore that sprayed asbestos material within buildings may become the most significant source of environmental asbestos contamination in the future.

Considering the large number of people that may be exposed, their range in age and habits, such as smoking, etc., and the lack of feasible means of personal protection, this potential source of asbestos exposure could be significant. It is the purpose of this document to describe the potential hazards to the public from this source and present rational alternatives for its control.

United States
Environmental Protection
Agency

Washington DC 20460
April 1979

Toxic Substances



School Asbestos Program

Questions & Answers

OPSB 00354